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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,189	09/10/2003	Stephen B. Brown	7162-73	5560
39207	7590	07/13/2004	EXAMINER	
SACCO & ASSOCIATES, PA P.O. BOX 30999 PALM BEACH GARDENS, FL 33420-0999			JONES, STEPHEN E	
			ART UNIT	PAPER NUMBER
			2817	

DATE MAILED: 07/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/659,189

Applicant(s)

BROWN ET AL.

Examiner

Stephen E. Jones

Art Unit

2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-15 is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/10/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Double Patenting*

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-8 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9, 12, and 14 of copending Application No. 10/635,582 in view of DiPiazza. Although the conflicting claims are not identical, they are not patentably distinct from each other because the co-pending claims teach all of the limitations of the present claims except that the transmission line stub is a quarter wavelength transmission line transformer or explicitly that the coupling and decoupling of the dielectric fluid provides an impedance transformation (Claims 1-2).

DiPiazza teaches that a stub can be used as a quarter wave transformer (e.g. see Col. 4, lines 15-50).

It would have been considered obvious to one of ordinary skill in the art to have substituted a quarter-wave stub transmission line (such as taught by DiPiazza) in place

of the generic stub transformer of the co-pending claims, because stubs are a well-known quarter-wave transformer means for impedance matching/transforming. Also, as an obvious consequence of changing the dielectric properties, by the moving of the fluid near the co-pending claimed stub, the impedance of the stub would be transformed since the dielectric properties of a transmission line are a fundamental characteristic of the impedance of a transmission line.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

3. Claim 9 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9, 12, and 14 of copending Application No. 10/635,582 in view of DiPiazza and further in view of Gripshover et al.

The co-pending claims and DiPiazza teach a stub transformer as described above. However, they do not teach that the fluid dielectric is an industrial solvent. Gripshover teaches a dielectric fluid mixing supply unit for varying the dielectric properties of a fluid for a variable capacitor. The liquid mixing includes a high dielectric fluid and a low dielectric fluid which thus can be considered an industrial solvent in its broadest meaning since the Gripshover device is dispersing a fluid formed of a mixture of fluids.

It would have been obvious to one of ordinary skill in the art to have formed the dielectric fluid in the co-pending claims/DiPiazza device by mixing fluids such as taught by Gripshover, because it would have provided the advantageous benefit of an easily

variable fluid supply system for varying frequency response and impedance, thereby suggesting the obviousness of such a modification.

***Allowable Subject Matter***

4. Claims 11-15 are allowed.
5. Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Moller teaches a liquid dielectric tuning of an integrated circuit and transmission line which includes impedance compensation for variations in the surrounding dielectric.

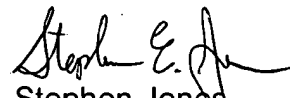
7. The following is a statement of reasons for the indication of allowable subject matter:

Regarding Claims 11-15, the prior art does not teach the claimed method including responsive to a control signal, transforming a first impedance to a third impedance at the second end of the transmission line transformer by moving a fluid dielectric from a first position where the fluid is coupled to the transformer to a second position.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen E. Jones whose telephone number is 571-272-1762. The examiner can normally be reached on Monday through Friday from 8 AM to 4 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J. Pascal can be reached on 571-272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Stephen Jones  
Patent Examiner  
Art Unit 2817

SEJ